PROFESSIONALLY ACCREDITED DEGREE ROUTE IN THEORETICAL PHYSICS

OM: Open Module, TE: Trinity Elective												
JF - JS: Core SoM SS Optional Core	JF - JS: OM SoM SS: Optional non-core	JF - JS: Core SoP SS: Optional Core	JF - JS: OM SoP SS: Optional non- core	TE/OM Other Schools	SS Capstone		Module prerequisites are suppressed for concision					
10 credits	•		•	•		-	Teaching Council	requirements for	Mathematics or Appl	. Maths are labe	lled by %	
5 credits		-										
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		School of Mathematics				Jointly Taught	School of Physics		Note: contents of School of Physics modules in Fresher years:			
										Physics 1 for TP: Intro (3), Special Rel. (15), Waves & Optics I (20), Statistics (10)		
JF		Calculus		Linear Algebra Classical]	Physics 1 for Theoretical Physics		Physics 2: Electricity & Magnetism I, Quantum Physics, Gravitation & Astrophysics			
Michaelmas					Mechanics I							
JF Hilary		Techniques for Theoretical Physics	Advanced Calculus	Linear Algebra	Classical Mechanics II		Physics 2 for Phys. Sci. & TP			Physics 3: Thermodynamics, Electricity & Magnetism II, Materials, Oscillations		
JF: 60 TP core with 40 SoM + 20 SoP			•						Physics 4 for TP: Chaos, Nuclear & Particle, Observing the Universe, Waves & O. II			
										Other Schools		
SF <u>Michaelmas</u>		Introduction to Programming	Group Theory	Equations of Math. Physics I	Adv. Classical Mechanics I		Physics 3 for Phys	s. Sci. & TP		Trinity Elective	Statistics (STU12501) %There is a quota of max.10 TP students for STU12501, STU12502, STU23501 and STU20005	
SF Hilary		Euclidean & Non-E. Geometry %	Analysis on the Real Line	Complex Analysis	Adv. Classical Mechanics II		Physics 4 for Theo	pretical Physics		Trinity Elective	Statistics (STU12502)	
SF: 40 TP core with 20 SoM core + 20 SoP + 10 OM + 10 TE								-				
									Computer			
									Simulation I			
JS Michaelmas	Linear Programming	Analysis in Several Real Variables	Statistical Physics	Classical Field Theory	Quantum Mechanics I		Condensed Matter Physics I	Practical 1 for TP	Stellar & Galactic Structure	Statistics (STU23501) %		
JS Hilary	Introduction to Numerical Analysis	Calculus on Manifolds %	Statistical Physics	Electrodynamics	Quantum Mechanics II		Atomic Physics & Statistical Thermodynamics	Practical 2 for TP	Condensed Matter Physics II (Semiconductors)	Statistics (STU22005)		
	(Linear) Partial Differential Equations	artial al Equations Practical: Experimental & Computational Labora Outreach, Careers, Safety, Communication Skill		nal Laboratories, cation Skills								
JS: 50 TP core with 30 SoM core + 20 SoP + 10 OM												
									_	Note: module of	hoice requirements for SS:	
SS Michaelmas		Non-core modules in Mathematics	Practical Numerical Simulations	Quantum Field Theory I ^	Differential Geometry ^	SS Capstone Research Project: 20 ECTS Module.	Problem Solving in Physics	Condensed Matter Theory		 Module prerequisites will be listed on the module choice form. Problem Solving is mandatory. Outside of the Capstone project, in SS year each student must take at least 5 		
SS Hilary		Non-core modules in Mathematics		Quantum Field Theory II	General Relativity	Equally balanced across semesters.	Nuclear & High Energy Physics	Quantum Plasmonics and Metamaterials ~	Cosmology ~	 4) At least one of the modules labelled ^ must be chosen. QFT is a full-year module. 5) At least one of the modules labelled ^^ must be chosen, but not both. QFTI is a prerequisite for Standard Model. 		
						Either a SoM or SoP module is chosen.	Quantum Optics & Information	Energy Science	Computer Simulation II	6) The modules labelled ~ cannot both be selected.		

SS: 40 TP core & non-core + 20 Capstone core

SS non-core modules in SoM vary by year.

August 6, 2024