FGH1 'Mathematical Physics M.Math'

To obtain the FGH1 (M.Math) degree a candidate should emphasise MATHS modules in years 3 and 4. Candidates choosing mainly PHYSICS modules should transfer to F344 (M.Phys).

YEAR 3

Module		Credits	Sem	Level
MATH432	Mathematical Physics Project	15.0	2	M
or				
PHYS488	Modelling Physical Phenomena (Project)	15.0	2	M
MATH325	Quantum Mechanics	15.0	1	3
or				
PHYS361	Quantum Mechanics and Atomic Physics	15.0	1	3
MATH326	Relativity	15.0	2	3
MATH323	Further Methods of Applied Mathematics	15.0	1	3
30 Credits at Level 3 from the list of optional modules below		30.0		3
30 Credits at Level M from the list of optional modules below		30.0		M
Total Credits		**120**		

YEAR 4

Module		Credits	Sem	Level
MATH420	Advanced Mathematical Physics Project	30.0	both	M
PHYS480	Advanced Quantum Physics	15.0	1	M
45 Credits at Level 3 from the list of optional modules below		45.0		3
30 Credits at Level M from the list of optional modules below		30.0		M
Total Credits		**120**		

Optional Modules for Years 3 and 4

Optional Modules, years 3 & 4		Credits	Sem	Level
MATH324	Cartesian Tensors and Mathematical Models of Solids and Viscous Fluids	15.0	1	3
MATH325	Quantum Mechanics	15.0	1	3
MATH332	Population Dynamics	15.0	1	3
MATH322	Chaos and Dynamical Systems	15.0	2	3
MATH331	Mathematical Economics	15.0	2	3
PHYS361	Quantum Mechanics & Atomic Physics	15.0	1	3
PHYS363	Condensed Matter Physics	7.5	1	3
PHYS375	Nuclear Physics	7.5	1	3
PHYS378	Advanced Practical Physics	15.0	1	3
PHYS387	Materials Physics	7.5	1	3
PHYS389	Semiconductor Applications	7.5	1	3
PHYS393	Statistical and Low Temperature Physics	15.0	1	3
PHYS370	Advanced Electromagnetism	15.0	2	3
PHYS374	Relativity and Cosmology	15.0	2	3
PHYS377	Particle Physics	7.5	2	3
PHYS381	Surface Physics	7.5	2	3
PHYS382	Physics of Life	7.5	2	3
PHYS388	Physics of Energy Sources	15	2	3
MATH421	Linear Differential Operators in Mathematical Physics	15.0	1	M
MATH423 (not 14-15)	Introduction to String Theory	15.0	2	M
MATH425	Quantum Field Theory (only in Year 4)	15.0	1	M
MATH424	Analytical and Computational Methods for Applied Mathematics	15.0	2	M
MATH426	Mathematical Biology	15.0	2	M
MATH427	Waves, Mathematical Modelling	15.0	2	M
MATH431 (2014-15)	Introduction to Modern Particle Theory	15.0	2	M
PHYS491	Research Skills	7.5	1	M
PHYS499	Nanoscale Physics and Technology	15.0	1	M
PHYS490	Advanced Nuclear Physics	7.5	2	M
PHYS481	Accelerator Physics	7.5	1	M
PHYS493	Advanced Particle Physics	7.5	2	M
PHYS497	Magnetic Structure and Function	7.5	1	M

Note: The choice of optional modules must be approved by the Programme Director. Other modules from the Mathematics or Physics department, which are not on the list, may be chosen as optional modules, but must be discussed with and approved by the programme director.