Full Course title(s)	BSc Mathematics and Physics
Duration of full-time course	3 years
State if coexistent M-level course	
Approving body and date of approval	For completion after approval

Ye	ar 1			(for implementation with effect from 2	(for implementation with effect from 2023/24)					
W	Weighting within course			[Part 1 Stage 1] 0% (see note 4)						
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)	
1	1		AY	Foundations of Physics 1	С	20	Y			
			AY	Mathematics & Physics Skills 1	С	10	Y			
			S1	Core Mathematics 1A (PH)	С	15		Y (MA)		
			S2	Core Mathematics 1B (PH)	С	15		Y (MA)		

Ye	ar 2			(for implementation with effect from 2	(for implementation with effect from 2024/25)						
W	eight	ing withi	n course	[Part 2 Stage 2] 32% (see note 4)							
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit title (see note 6) Unit status Gedits Gedits Gedits Gradi						
2	2		AY	Foundations of Physics 2	С	20	Y				
			AY	Mathematics & Physics Skills 2	С	10	Y				
			S1	Differential Equations & Vector Calculus	С	10		Y (MA)			
	S1 .		S1	Algebra 2A	С	5		Y (MA)			
	S2 F		S2	Partial Differential Equations	С	5		Y (MA)			
			S2	Algebra 2B	0	10		Y (MA)	Optional:		
			S2	Numerical Analysis	0	10		Y (MA)	Select 10 credits		

Ye	ar 3			(for implementation with effect fro	(for implementation with effect from 2025/26)							
We	eight	ing with	in course	[Part 3 Stage 3] 68% (see not	[Part 3 Stage 3] 68% (see note 4)							
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)			
3	3		AY	Final Year Project	0	15	Y					
			AY	Industry Team Project	0	15	Y		Optional: Select 15 credits			
			AY	Communicating Physics Project	0	15	Y					
	S1 S		S1	Self-directed Learning	С	5						
			S1	Contemporary Physics	0	5			Block A: Optional:			
			S1	Computational Physics (5 credits)	0	5			Select a minimum of 0 and a maximum of 5 credits from this			
	S1 Da OI S1 Ad		S1	Data Analysis & Research Methods for Observational Astronomy	0	5			block.			
			S1	Advanced Quantum Mechanics	0	5			Block B: Optional:			
			S1	Electronic & Optical Properties of Matter	0	5			Select a minimum of 0 and a maximum of 20 credits from the			
			S1	Nonlinear Physics	0	5			You must choose 20 credits			
			S1	Statistical Physics & Soft Matter	0	5			from the combination of Blocks			





S1 Medical Physics 0 5 combination of Block A, B and Information S1 Stars & Stellar Evolution 0 5 D. You must choose a minimum of 20 credits and a maximum of 20 credits from the combination of Blocks C and E. S1 Environmental Physics 0 5 Hotonics S1 Environmental Physics 0 5 Y (ED) S1 Director of Studies Approved Unit 0 5 Y (MA) S1 Numerica Codes 0 5 Y (MA) S1 Numerica Codes 0 5 Y (MA) S1 Numerica Biology 1 0 5 Y (MA) S1 Projective Geometry of Curves & 0 5 Y (MA) S1 Dynamics & Chaos 0 5 Y (MA) S2 Advanced Classical Mechanics 0 5 Y (MA) S2 General Relativity 0 5 Y (MA) S2 General Relativity 0 5 Y (MA) S2 Galaxies & Introduction to Cosmology 5 Y (MA) S2 Galaxies & Introduction to Cosmology <th></th> <th>S1</th> <th>Fluid Dynamics in Physics & Astrophysics</th> <th>0</th> <th>5</th> <th></th> <th>A, B and C. You must choose a maximum of 20 credits from the</th>		S1	Fluid Dynamics in Physics & Astrophysics	0	5		A, B and C. You must choose a maximum of 20 credits from the
S1 Stars & Stellar Evolution O 5 O 100 Tradits Choose a maximum of 0 of 0 credits and a maximum of 0 of 0 credits from the combination of		S1	Medical Physics	0	5		combination of Blocks A, B and
Sti Photonics O 5 40 credits from the combination of Blocks C and E. Sti Science Education 1 O 5 Y(ED) Sti Science Education 1 O 5 Y(ED) Sti Director of Studies Approved Unit O 5 Y(MA) Sti Numerical Linear Algebra O 10 Y(MA) Sti Differential Geometry of Curves & Suffaces O 5 Y(MA) Sti Projective Geometry O 5 Y(MA) Sti Control Theory O 5 Y(MA) Sti Mathematical Biology 1 O 5 Y(MA) Sti Advanced Classical Mechanics O 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from the combination of Blocks A, B and D: You must choose a naximum of 20 credits from the combination of Blocks A, B and D: You must choose a naximum of 20 credits from the combination of Blocks A, and E. Sta Laser Physics O 5 Y(MA) Sta Caneral Relativity O 5 Block D: Optional: Select a minimum of 0 and a maximum of 20		S1	Stars & Stellar Evolution	0	5		of 20 credits and a maximum of
S1 Environmental Physics O 5 V(ED) S1 Science Education 1 O 5 Y(ED) S1 Director of Studies Approved Unit O 5 Y(MA) S1 Numbers & Codes O 5 Y(MA) S1 Numerical Linear Algebra O 10 Y(MA) S1 Numerical Linear Algebra O 10 Y(MA) S1 Differential Geometry of Curves & O 5 Y(MA) S1 Drojective Geometry O 5 Y(MA) S1 Control Theory O 5 Y(MA) S2 Laser Physics O 5 Y(MA) S2 Laver Physics O 5 Y(MA) S2 Symmetry & Topology O 5 V(MA) S2 Submetry & Topology O 5 Coredits from the combination of Blocks C and E. S2 Symmetry & Topology O 5 Mathematical Biology 1 O 5 S2 Symmetry & Topology O 5 Credits from the combination of Blo		S1	Photonics	0	5		40 credits from the combination
S1 Science Education 1 O 5 Y (ED) S1 Director of Studies Approved Unit O 5 Y S1 Numbers & Codes O 5 Y (MA) S1 Numerical Linear Algebra O 10 Y (MA) S11 Differential Geometry of Curves & O 5 Y (MA) S11 Differential Geometry of Curves & O 5 Y (MA) S11 Dynamics & Chaos O 5 Y (MA) S11 Mathematical Biology 1 O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Advanced Classical Mechanics O 5 Block D: Optional: S22 Symmetry & Topology O 5 Masking 0 6 S2		S1	Environmental Physics	0	5		OF BIOCKS C and E.
S1 Director of Studies Approved Unit O 5 Y S1 Numbers & Codes O 5 Y (MA) S1 Fluid Dynamics O 10 Y (MA) S1 Numerical Linear Algebra O 10 Y (MA) S1 Differential Geometry of Curves & Surfaces O 5 Y (MA) S1 Differential Geometry of Curves & Surfaces O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Control Theory O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Advanced Classical Mechanics O 5 - S2 Advanced Classical Mechanics O 5 - S2 Symmetry & Topology O 5 - S2 General Relativity O 5 - S2 General Relativity O 5 - S2 General Relativity O <td></td> <td>S1</td> <td>Science Education 1</td> <td>0</td> <td>5</td> <td>Y (ED)</td> <td></td>		S1	Science Education 1	0	5	Y (ED)	
S1 Numbers & Codes O 5 Y (MA) S1 Fluid Dynamics O 10 Y (MA) S1 Numerical Linear Algebra O 10 Y (MA) S1 Differential Geometry of Curves & O 5 Y (MA) S1 Differential Geometry of Curves & O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Control Theory O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Networks & Quantum Information 5 Select a minimum of 0 and a maximum of 20 credits from the combination of Block C: Optional: S2 Galaxies & Introduction to Cosmology O 5 Maximum of 20 credits and a maximum of 20 credits and a maximum of 20 credits from the combination of Block A, B and D. You must choose a maximum of 20 credits and a max		S1	Director of Studies Approved Unit	0	5	Y	
S1 Fluid Dynamics O 10 Y (MA) S1 Numerical Linear Algebra O 10 Y (MA) S1 Differential Geometry of Curves & Surfaces O 5 Y (MA) S1 Projective Geometry O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Control Theory O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Advanced Classical Mechanics O 5 Y (MA) S2 Networks & Quantum Information O 5 Y (MA) S2 General Relativity O 5 Y (MA) S2 Science Education 2 O 5<		S1	Numbers & Codes	0	5	Y (MA)	
S1 Numerical Linear Algebra O 10 Y (MA) S1 Differential Geometry of Curves & Surfaces O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dynamics & Chaos O 5 Y (MA) S1 Dontrol Theory O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Networks & Quantum Information O 5 Y (MA) S2 Networks & Quantum Information O 5 Y (MA) S2 Networks & Quantum Information O 5 Y (MA) S2 Methods for Differential Equations O 5 Hainimum of 20 credits from the combination of Blocks C and E. S2 Magnetism & Superconductivity O 5 Hainimum of 20 credits from the combination of Blocks C and E. S2 Mathematical Biology 2		S1	Fluid Dynamics	0	10	Y (MA)	Block C: Optional:
S1 Differential Geometry of Curves & Surfaces O 5 Y (MA) block. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a minimum of 20 credits and a maximum of 40 credits from the combination of 20 credits and a maximum of 40 credits from the combination of 20 credits from the combination of Blocks C and E. S1 Dynamics & Chaos O 5 Y (MA) S1 Control Theory O 5 Y (MA) S2 Laser Physics O 5 Y (MA) S2 Advanced Classical Mechanics O 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from the combination of Blocks C and E. S2 General Relativity O 5 Block D: Optional: Select a minimum of 20 credits from the block. You must choose a maximum of 20 credits from the combination of Blocks A B and D. You must choose a maximum of 20 credits from the combination of Blocks C and E. S2 General Relativity O 5 maximum of 20 credits from the combination of Blocks C and E. S2 Sustainable Energy Technologies O 5 Y S2 Director of Studies Approved Unit O 5 Y S2 Mathematical Biology 2 <t< td=""><td></td><td>S1</td><td>Numerical Linear Algebra</td><td>0</td><td>10</td><td>Y (MA)</td><td>maximum of 20 credits from this</td></t<>		S1	Numerical Linear Algebra	0	10	Y (MA)	maximum of 20 credits from this
S1 Projective Geometry 0 5 Y (MA) S1 Dynamics & Chaos 0 5 Y (MA) S1 Dynamics & Chaos 0 5 Y (MA) S1 Control Theory 0 5 Y (MA) S1 Mathematical Biology 1 0 5 Y (MA) S2 Laser Physics 0 5 Y (MA) S2 Advanced Classical Mechanics 0 5 Block D: Optional: S2 Symmetry & Topology 0 5 maximum of 20 credits from this block. Y, D and a maximum of 20 credits from this block. You must choose a maximum of 20 credits from this block. You must choose a maximum of 20 credits from this block. You must choose a minimum of 20 credits from this block. You must choose a minimum of 20 credits from this block. You must choose a minimum of 20 credits from this block. So and E. You must choose a minimum of 20 credits from this combination of Blocks C and E. S2 General Relativity 0 5 minimum of 20 credits from this combination of Blocks C and E. S2 Galaxies & Introduction to Cosmology 0 5 minimum of 20 credits from this combination of Blocks C and E. S2 Science Education 2 0 5 Y (MA) Select a minimum of 20 credits fr		S1	Differential Geometry of Curves & Surfaces	0	5	Y (MA)	block. You must choose a maximum of 20 credits from the
S1 Dynamics & Chaos 0 5 Y (MA) S1 Control Theory 0 5 Y (MA) S1 Mathematical Biology 1 0 5 Y (MA) S2 Laser Physics 0 5 Y (MA) S2 Advanced Classical Mechanics 0 5 S S2 Advanced Classical Mechanics 0 5 S S2 Symmetry & Topology 0 5 S S2 General Relativity 0 5 Sourcetits from the combination of Blocks C and E. S2 Galaxies & Introduction to Cosmology 0 5 Stope anaximum of 20 credits from the combination of Blocks C and E. S2 Sustainable Energy Technologies 0 5 Maximum of 20 credits from the combination of Blocks C and E. S2 Methods for Differential Equations 0 10 Y (MA) S2 Methods for Differential Equations 0 10 Y (MA) S2 Methods for Differential Equations 0 10 Y (MA) S2 Methods for Differential Equations 0 5 Y (MA) <td></td> <td>S1</td> <td>Projective Geometry</td> <td>0</td> <td>5</td> <td>Y (MA)</td> <td>D. You must choose a minimum</td>		S1	Projective Geometry	0	5	Y (MA)	D. You must choose a minimum
S1 Control Theory 0 5 Y (MA) Advacual of Blocks C and E. S1 Mathematical Biology 1 0 5 Y (MA) S2 Laser Physics 0 5 Y (MA) S2 Advanced Classical Mechanics 0 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from this block. You must choose a S2 Symmetry & Topology 0 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks S2 General Relativity 0 5 Block D: Optional: Select a minimum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks C and E. S2 Sustainable Energy Technologies 0 5 Y (ED) S2 Director of Studies Approved Unit 0 5 Y (ED) S2 Mathematical Biology 2 0 5 Y (MA) S2 Mathematical Biology 2 0 5 Y (MA) S2 Mathematica Of Planet Earth 0 5 Y (MA) S2		S1	Dynamics & Chaos	0	5	Y (MA)	of 20 credits and a maximum of
S1Mathematical Biology 1O5Y (MA)S2Laser PhysicsO5Image: S2S2Advanced Classical MechanicsO5Image: S2S2Networks & Quantum InformationO5Image: S2S2Symmetry & TopologyO5Image: S2S2General RelativityO5Image: S2S2Galaxies & Introduction to CosmologyO5Image: S2S2Galaxies & Introduction to CosmologyO5Image: S2S2Sustainable Energy TechnologiesO5Image: S2S2Director of Studies Approved UnitO5Y (ED)S2Groups And Their RepresentationsO10Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Graph TheoryO5Y (MA)		S1	Control Theory	0	5	Y (MA)	40 credits from the combination of Blocks C and E.
S2 Laser Physics O 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E. S2 Magnetism & Superconductivity O 5 — S2 Sustainable Energy Technologies O 5 Y S2 Director of Studies Approved Unit O 5 Y S2 Mathematical Biology 2 O 5 Y S2 Mathematical Biology 2 O 5 Y (MA) S2 Mathematics of Planet Earth O 5 Y (MA) S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) S2 Inverse Problems & Numerical Optimisation (MA3) O 5 Y (MA)		S1	Mathematical Biology 1	0	5	Y (MA)	
S2 Advanced Classical Mechanics O 5 Block D: Optional: Select a minimum of 0 and a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a minimum of 20 credits from the combination of Blocks C and E. S2 Galaxies & Introduction to Cosmology O 5 Introduction of Block D: You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks C and E. S2 Sustainable Energy Technologies O 5 Introduction to Cosmology S2 Science Education 2 O 5 Y Introduction of Blocks C and E. S2 Director of Studies Approved Unit O 5 Y Introduction of Blocks C and E. S2 Mathematical Biology 2 O 5 Y (MA) Select a minimum of 0 and a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks C and E. S2 Mathematics of Planet Earth O<		S2	Laser Physics	0	5		
S2 Networks & Quantum Information O 5 maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits and a maximum of 20 credits from the combination of Blocks C and E. S2 Science Education 2 O 5 Y (ED) S2 Director of Studies Approved Unit O 5 Y (ED) S2 Methods for Differential Equations O 10 Y (MA) S2 Groups And Their Representations O 10 Y (MA) S2 Mathematics of Planet Earth O 5 Y (MA) S2 Advanced Dynamical Systems (MA3) O 5 Y (MA) S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) S2 Graph Theory O 5 Y (MA) Numerical Solution of Elliptic PDEs (MA3)		S2	Advanced Classical Mechanics	0	5		Block D: Optional:
S2 Symmetry & Topology O 5 Image: Signature Signate Signature Signature Signature Signate Signature Signature Signa		S2	Networks & Quantum Information	0	5		maximum of 20 credits from this
S2 General Relativity O 5 Cledits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a maximum of 20 credits and a maximum of 20 credits from the combination of Blocks C and E. S2 Sustainable Energy Technologies O 5 minimum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E. S2 Science Education 2 O 5 Y Mathematical Biology 2 F S2 Mathematical Biology 2 O 5 Y Mathematical Biology 2 O 5 Y S2 Mathematical Biology 2 O 5 Y Mathematical Solution of Elliptic PDEs O 5 Y Mathematical Solution of Elliptic PDEs O 5 Y Mathematical Solution of Blocks C and E. Numerical Solution of Blocks C and E. A b and D. You must choose a maximum of 20 credits from the combination of Blocks C and B. S2 S2 Mathematics of Planet Earth O 5 Y (MA) S1 S2 Complex Analysis S1 Y (MA) S1 S2 Coredits from the combination of Blocks A, B and D. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a maximum of 20 credits from the combination of Blocks A, B		S2	Symmetry & Topology	0	5		block. You must choose 20
S2Galaxies & Introduction to CosmologyO5Choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a maximum of 20 credits and a maximum of 20 credits from the combination of Blocks C and E.S2Sustainable Energy TechnologiesO5Image: Signal A, BS2Science Education 2O5YS2Director of Studies Approved UnitO5YS2Methods for Differential EquationsO10Y (MA)S2Groups And Their RepresentationsO10Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Graph TheoryO5Y (MA)		S2	General Relativity	0	5		Blocks D and E. You must
S2 Magnetism & Superconductivity O 5 Infinite Control and on Blocks 2 S2 Sustainable Energy Technologies O 5 Infinite Control and a for the combination of Blocks 2 and a maximum of 40 credits from the combination of Blocks C and E. S2 Director of Studies Approved Unit O 5 Y S2 Methods for Differential Equations O 10 Y (MA) S2 Groups And Their Representations O 10 Y (MA) S2 Mathematical Biology 2 O 5 Y (MA) S2 Complex Analysis O 5 Y (MA) S2 Advanced Dynamical Systems (MA3) O 5 Y (MA) S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) S2 Inverse Problems & Numerical Optimisation (MA3) O 10 Y (MA) S2 Graph Theory O 5 Y (MA) Maximum of 40 credits from the combination of Blocks C and E.		S2	Galaxies & Introduction to Cosmology	0	5		choose a maximum of 20 credits
S2Sustainable Energy TechnologiesO5Iminimum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E.S2Science Education 2O5Y (ED)S2Director of Studies Approved UnitO5YS2Methods for Differential EquationsO10Y (MA)S2Groups And Their RepresentationsO10Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Mathematics of Planet EarthO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Inverse Problems & Numerical Optimisation (MA3)O5Y (MA)S2Graph TheoryO5Y (MA)		S2	Magnetism & Superconductivity	0	5		A, B and D. You must choose a
S2Science Education 2O5Y (ED)Infaktification of 40 credits from the combination of Blocks C and E.S2Director of Studies Approved UnitO5YS2Methods for Differential EquationsO10Y (MA)S2Groups And Their RepresentationsO10Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Mathematics of Planet EarthO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Numerical Solution of Elliptic PDEsO5Y (MA)S2Inverse Problems & NumericalO10Y (MA)S2Graph TheoryO5Y (MA)		S2	Sustainable Energy Technologies	0	5		minimum of 20 credits and a
S2Director of Studies Approved UnitO5YS2Methods for Differential EquationsO10Y (MA)S2Groups And Their RepresentationsO10Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Mathematics of Planet EarthO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Numerical Solution of Elliptic PDEs (MA3)O5Y (MA)S2Inverse Problems & Numerical Optimisation (MA3)O5Y (MA)S2Graph TheoryO5Y (MA)		S2	Science Education 2	0	5	Y (ED)	combination of Blocks C and E.
S2Methods for Differential EquationsO10Y (MA)Block E: Optional: Select a minimum of 0 and a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must from the combination of Blocks A, B and D. You must choose a minimum of 20 credits from the combination of Blocks C and E.S2Methods for Differential EquationsO5Y (MA)S2Mathematical Biology 2O5Y (MA)S2Complex AnalysisO5Y (MA)S2Mathematics of Planet EarthO5Y (MA)S2Advanced Dynamical Systems (MA3)O5Y (MA)S2Numerical Solution of Elliptic PDEs (MA3)O5Y (MA)S2Inverse Problems & Numerical Optimisation (MA3)O5Y (MA)S2Graph TheoryO5Y (MA)		S2	Director of Studies Approved Unit	0	5	Y	
S2Groups And Their RepresentationsO10Y (MA)Select a minimum of 0 and a maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must hoose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and D. You must choose a maximum of 20 credits from the combination of Blocks D and D. You must choose a maximum of 20 credits from the combination of Blocks D and D. You must choose a minimum of 20 credits from the combination of Blocks C and E.S2Numerical Solution of Elliptic PDEs (MA3)O5Y (MA)New Y (MA)S2Inverse Problems & Numerical Optimisation (MA3)O5Y (MA)Maximum of 40 credits from the combination of Blocks C and E.S2Graph TheoryO5Y (MA)Y (MA)Y (MA)		S2	Methods for Differential Equations	0	10	Y (MA)	Block E: Optional:
S2Mathematical Biology 2O5Y (MA)maximum of 20 credits from this block. You must choose 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the constraint of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the constraint of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a minimum of 20 credits from the combination of Blocks C and E.S2Numerical Solution of Elliptic PDEs (MA3)O5Y (MA)S2Inverse Problems & Numerical Optimisation (MA3)O5Y (MA)S2Graph TheoryO5Y (MA)		S2	Groups And Their Representations	0	10	Y (MA)	Select a minimum of 0 and a
S2 Complex Analysis O 5 Y (MA) S2 Mathematics of Planet Earth O 5 Y (MA) S2 Advanced Dynamical Systems (MA3) O 5 Y (MA) S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) S2 Inverse Problems & Numerical Optimisation (MA3) O 5 Y (MA) S2 Graph Theory O 5 Y (MA)		S2	Mathematical Biology 2	0	5	Y (MA)	maximum of 20 credits from this
S2 Mathematics of Planet Earth O 5 Y (MA) Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks S2 Advanced Dynamical Systems (MA3) O 5 Y (MA) Blocks D and E. You must choose a maximum of 20 credits from the combination of Blocks A, B and D. You must choose a minimum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E. S2 Inverse Problems & Numerical Optimisation (MA3) O 5 Y (MA) S2 Graph Theory O 5 Y (MA)		S2	Complex Analysis	0	5	Y (MA)	credits from the combination of
S2 Advanced Dynamical Systems (MA3) O 5 Y (MA) Choose a maximum of 20 credits from the combination of Blocks S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) A, B and D. You must choose a maximum of 20 credits from the combination of Blocks S2 Inverse Problems & Numerical Optimisation (MA3) O 10 Y (MA) maximum of 40 credits from the combination of Blocks C and E. S2 Graph Theory O 5 Y (MA) Y (MA)		S2	Mathematics of Planet Earth	0	5	Y (MA)	Blocks D and E. You must
S2 Numerical Solution of Elliptic PDEs (MA3) O 5 Y (MA) A, B and D. You must choose a minimum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E. S2 Inverse Problems & Numerical Optimisation (MA3) O 10 Y (MA) A, B and D. You must choose a minimum of 40 credits from the combination of Blocks C and E. S2 Graph Theory O 5 Y (MA) Y (MA)		S2	Advanced Dynamical Systems (MA3)	0	5	Y (MA)	from the combination of Blocks
S2 Inverse Problems & Numerical Optimisation (MA3) O 10 Y (MA) Maximum of 40 credits from the combination of Blocks C and E. S2 Graph Theory O 5 Y (MA)		S2	Numerical Solution of Elliptic PDEs (MA3)	0	5	Y (MA)	A, B and D. You must choose a minimum of 20 credits and a
S2 Graph Theory O 5 Y (MA)		S2	Inverse Problems & Numerical Optimisation (MA3)	0	10	Y (MA)	combination of Blocks C and E.
		S2	Graph Theory	0	5	Y (MA)	



Full Course title(s)	BSc Mathematics and Physics with placement
Duration of full-time course	4 years with work placement
State if coexistent M-level course	
Approving body and date of approval	For completion after approval

Ye	ear 1			(for implementation with effect from 2	(for implementation with effect from 2023/24)						
W	eight	ing withi	n course	[Part 1 Stage 1] 0% (see note 4)							
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit title (see note 6) Unit status Cedits C						
1	1		AY	Foundations of Physics 1	С	20	Y				
			AY	Mathematics & Physics Skills 1	С	10	Y				
			S1	Core Mathematics 1A (PH)	С	15		Y (MA)			
			S2	Core Mathematics 1B (PH)	С	15		Y (MA)			

Ye	ar 2			(for implementation with effect from 2	(for implementation with effect from 2024/25)							
W	eight	ing withi	n course	[Part 2 Stage 2] 32% (see note 4)	1							
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit title (see note 6) Unit status (see note 6) Unit status Unit status Unit status							
2	2		AY	Foundations of Physics 2	С	20	Y					
			AY	Mathematics & Physics Skills 2	С	10	Y					
	S1		S1	Differential Equations & Vector Calculus	С	10		Y (MA)				
	S1 /		S1	Algebra 2A	С	5		Y (MA)				
	S2 F		S2	Partial Differential Equations	С	5		Y (MA)				
			S2	Algebra 2B	0	10		Y (MA)	Optional:			
			S2	Numerical Analysis	0	10		Y (MA)	Select 10 credits			

Year 3				(for implementation with effect from 2	(for implementation with effect from 2025/26)					
Weighting within course				[Part 2 Stage 3] 0% (see note 4)						
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)	
2	3		AY	Professional Placement	С	60				



Ye	ear 4			(for implementation with effect from 2	2026/27)				
W	/eigh	ting wit	hin cours	e [Part 3 Stage 4] 68% (see note 4))				
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)
3	4		AY	Final Year Project	0	15	Y		
			AY	Industry Team Project	0	15	Y		Optional: Select 15 credits
	AY 0 51 5		AY	Communicating Physics Project	0	15	Y		
			S1	Self-directed Learning	С	5			
			S1	Contemporary Physics	0	5			Block A: Optional:
			S1	Computational Physics (5 credits)	0	5			maximum of 5 credits from this
			S1	Data Analysis & Research Methods for Observational Astronomy	0	5			block.
			S1	Advanced Quantum Mechanics	0	5			
			S1	Electronic & Optical Properties of Matter	0	5			Block B: Optional: Select a minimum of 0 and a
			S1	Nonlinear Physics	0	5			maximum of 20 credits from the
			S1	Statistical Physics & Soft Matter	0	5			combination of Blocks A and B. You must choose 20 credits
			S1	Fluid Dynamics in Physics & Astrophysics	0	5			from the combination of Blocks
			S1	Medical Physics	0	5			A, B and C. You must choose a maximum of 20 credits from the
			S1	Stars & Stellar Evolution	0	5			combination of Blocks A, B and
			S1	Photonics	0	5			D. You must choose a minimum of 20 credits and a maximum of
		 1	51	Environmental Physics	0	5			40 credits from the combination
			51	Director of Studies Approved Lipit	0	5		Y (ED)	of Blocks C and E.
			51 91	Numbers & Codes	0	5 5			
		 1	S1		0	10		τ (MA)	Block C: Optional:
			S1	Numerical Linear Algebra	0	10			maximum of 20 credits from this
			S1	Differential Geometry of Curves & Surfaces	0	5		Y (MA)	block. You must choose a
			S1	Projective Geometry	0	5		Y (MA)	combination of Blocks A, B and
			S1	Dynamics & Chaos	0	5		Y (MA)	D. You must choose a minimum
			S1	Control Theory	0	5		Y (MA)	40 credits from the combination
			S1	Mathematical Biology 1	0	5		Y (MA)	of Blocks C and E.
			S2	Laser Physics	0	5			
	Í		S2	Advanced Classical Mechanics	0	5			Block D: Optional:
	Í		S2	Networks & Quantum Information	0	5			maximum of 20 credits from this
			S2	Symmetry & Topology	0	5			block. You must choose 20
			S2	General Relativity	0	5			Blocks D and E. You must
			S2	Galaxies & Introduction to Cosmology	0	5			choose a maximum of 20 credits
			S2	Magnetism & Superconductivity	0	5			A, B and D. You must choose a
			S2	Sustainable Energy Technologies	0	5			minimum of 20 credits and a
			S2	Science Education 2	0	5		Y (ED)	combination of Blocks C and E.
			S2	Director of Studies Approved Unit	0	5		Y	
			S2	Methods for Differential Equations	0	10		Y (MA)	Block E: Optional:
			S2	Groups And Their Representations	0	10		Y (MA)	maximum of 20 credits from this
			S2	Mathematical Biology 2	0	5		Y (MA)	block. You must choose 20
			S2	Complex Analysis	0	5		Y (MA)	Blocks D and E. You must
			S2	Mathematics of Planet Earth	0	5		Y (MA)	choose a maximum of 20 credits
			S2	Advanced Dynamical Systems (MA3)	0	5		Y (MA)	A, B and D. You must choose a
			S2	Numerical Solution of Elliptic PDEs (MA3)	0	5		Y (MA)	minimum of 20 credits and a
			52	(MA3)	0	5		Y (MA)	combination of Blocks C and E.
			S2	Graph Theory	0	5		Y (MA)	



Full Course title(s)	BSc Mathematics and Physics with study year abroad
Duration of full-time course	4 years with study placement
State if coexistent M-level course	
Approving body and date of approval	For completion after approval

Ye	ear 1			(for implementation with effect from 2	(for implementation with effect from 2023/24)						
W	eight	ing withi	n course	[Part 1 Stage 1] 0% (see note 4)							
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit title (see note 6) Unit status Unit status						
1	1		AY	Foundations of Physics 1	С	20	Y				
			AY	Mathematics & Physics Skills 1	С	10	Y				
			S1	Core Mathematics 1A (PH)	С	15		Y (MA)			
			S2	Core Mathematics 1B (PH)	С	15		Y (MA)			

Ye	ar 2			(for implementation with effect from 2	2024/25)				
W	eight	ing withi	n course	[Part 2 Stage 2] 32% (see note 4)	1				
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)
2	2		AY	Foundations of Physics 2	С	20	Y		
			AY	Mathematics & Physics Skills 2	С	10	Y		
			S1	Differential Equations & Vector Calculus	С	10		Y (MA)	
			S1	Algebra 2A	С	5		Y (MA)	
			S2	Partial Differential Equations	С	5		Y (MA)	
			S2	Algebra 2B	0	10		Y (MA)	Optional:
			S2	Numerical Analysis	0	10		Y (MA)	Select 10 credits

Ye	ar 3			(for implementation with effect from 2	025/26)				
W	eight	ing withi	n course	[Part 2 Stage 3] 0% (see note 4)					
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)
2	3		AY	Study Year Abroad	С	60			



Ye	ear 4			(for implementation with effect from 2	2026/27)				
W	eigh	ting wit	hin cours	e [Part 3 Stage 4] 68% (see note 4)					
Part	Stage	Unit code (see note 5)	Normal period of study for this Mode	Unit title (see note 6)	Unit status	Credits	DEU status	Unit from outside department	Other information (see note 8)
3	4		AY	Final Year Project	0	15	Y		
			AY	Industry Team Project	0	15	Y		Optional: Select 15 credits
			AY	Communicating Physics Project	0	15	Y		
			S1	Self-directed Learning	С	5			
			S1	Contemporary Physics	0	5			Block A: Optional:
			S1	Computational Physics (5 credits)	0	5			maximum of 5 credits from this
			S1	Data Analysis & Research Methods for Observational Astronomy	0	5			block.
			S1	Advanced Quantum Mechanics	0	5			
			S1	Electronic & Optical Properties of Matter	0	5			Block B: Optional: Select a minimum of 0 and a
			S1	Nonlinear Physics	0	5			maximum of 20 credits from the
			S1	Statistical Physics & Soft Matter	0	5			combination of Blocks A and B. You must choose 20 credits
			S1	Fluid Dynamics in Physics & Astrophysics	0	5			from the combination of Blocks
			S1	Medical Physics	0	5			A, B and C. You must choose a maximum of 20 credits from the
			S1	Stars & Stellar Evolution	0	5			combination of Blocks A, B and
			S1	Photonics	0	5			D. You must choose a minimum of 20 credits and a maximum of
			51	Environmental Physics	0	5			40 credits from the combination
			51	Science Education 1	0	5		Y (ED)	of Blocks C and E.
			51 S1	Director of Studies Approved Onit	0	5 5			
			S1		0	10			Block C: Optional:
			S1	Numerical Linear Algebra	0	10		Y (MA)	maximum of 20 credits from this
			S1	Differential Geometry of Curves & Surfaces	0	5		Y (MA)	block. You must choose a
			S1	Projective Geometry	0	5		Y (MA)	combination of Blocks A, B and
			S1	Dynamics & Chaos	0	5		Y (MA)	D. You must choose a minimum of 20 credits and a maximum of
			S1	Control Theory	0	5		Y (MA)	40 credits from the combination
			S1	Mathematical Biology 1	0	5		Y (MA)	of Blocks C and E.
			S2	Laser Physics	0	5			
			S2	Advanced Classical Mechanics	0	5			Block D: Optional:
			S2	Networks & Quantum Information	0	5			maximum of 20 credits from this
			S2	Symmetry & Topology	0	5			block. You must choose 20
			S2	General Relativity	0	5			Blocks D and E. You must
			S2	Galaxies & Introduction to Cosmology	0	5			choose a maximum of 20 credits from the combination of Blocks
			S2	Magnetism & Superconductivity	0	5			A, B and D. You must choose a
			S2	Sustainable Energy Technologies	0	5			minimum of 20 credits and a maximum of 40 credits from the
			S2	Science Education 2	0	5		Y (ED)	combination of Blocks C and E.
			S2	Director of Studies Approved Unit	0	5		Y	
			S2	Methods for Differential Equations	0	10		Y (MA)	Block E: Optional: Select a minimum of 0 and a
			52	Groups And Their Representations	0	10 E		Y (MA)	maximum of 20 credits from this
			32 82		0	Э F			block. You must choose 20 credits from the combination of
			02 60	Mathematics of Planot Forth	0	5 5			Blocks D and E. You must
			32 92	Advanced Dynamical Systems (MA2)	0	5		T (IVIA)	choose a maximum of 20 credits from the combination of Blocks
			32 52	Numerical Solution of Elliptic PDEs (MA2)	0	5		т (IVIA) У (МА)	A, B and D. You must choose a
			52 S2	Inverse Problems & Numerical Optimisation (MA3)	0	5		Y (MA)	minimum of 20 credits and a maximum of 40 credits from the combination of Blocks C and E.
			S2	Graph Theory	0	5		Y (MA)	

Drafting template: Undergraduate course structure



Notes for completion

- 1. A separate course structure table is required for each variant of the course, including ordinary 'thick sandwich' variants (i.e. those with an additional non-mandatory course year for work or study placement, where the units taken in other course years are identical), or where external activity replaces study at Bath.
- 2. As applicable, differentiated course structure tables should be used to show your transitional plans for delivering courses with placement or study abroad variants, where students on a sandwich year who start in 2022/23 (on the existing course) will reach their final year at the same time as students who start in 2023/24 (on the transformed course) and do not take a sandwich year.
- 3. Credit values must be given in ECTS.
- 4. The 'weighting within course' is included in the digital prospectus. It should be the same weighting as applies on the current course. If a change to the current weighting is proposed, this will require specific approval.
- 5. The unit code column is for completion after approval.
- 6. Ensure that the unit title stated here matches that appearing on the relevant unit summary template (QA-CT: Phase 2, Annex 7). If your unit title may not uniquely identify the individual unit (e.g. 'Research Methods', 'Project', 'Dissertation', 'Placement', etc) then please state additional identifiers here **in brackets** to enable the information provided in this document to be matched to the correct unit information e.g. 'Final year project (MEng Civil Engineering courses)'. The text in brackets is not part of the official unit title.
- 7. There must be no progression requirements within an undergraduate course year. Please refer to provisions of the 2021 <u>academic framework</u> for all design parameters.
- 8. The 'Other Information' column should be used to specify:
 - a. how option choice works (e.g. 'Choose 1 optional unit from List A...');
 - b. any units that are cross-departmental units (currently 'XX-' units)
 - c. any units that are Director of Studies Approved units (currently 'ZZ-' units). Director of Studies Approved units may be used as an optional unit, but must only be agreed, for a student, after the timetable has been finalised.
 - d. any units that are semester-long placement or study abroad units.

HoD endorsement

HoD endorsement
Where units are delivered by another department, as
identified in the course structure tables above,
confirmation that this is endorsed by the delivering
HoD and Faculty.
Please confirm for all applicable departments.