

MASTER CURRICULUM – AP – 2021/2022

Compulsory course AP				
Code	Course	EC	Q	Timeslot
3MA010	Computational and mathematical physics	5	GS1	B

Compulsory Courses Master Tracks AP					
Code	Course	EC	Track	Q	Timeslot
3MB010	Physics of plasma and radiation	5	PB	GS1	A
3MQ010	Condensed matter at the nanoscale	5	NQP	GS1	C
3MS010	Advanced fluid dynamics	5	FSBM	GS1	E
3MS020	Soft matter physics	5	FSBM	GS2	B

Internship & Graduation AP				
Code	Course	EC	Timeslot	
3MA15	External internship Applied Physics	15	X	
3MA30	External internship Applied Physics	30	X	
3MA45	Graduation project Applied Physics	45	X	
3MA60	Graduation project Applied Physics	60	X	

General Elective AP				
3ME120	Physics of engineering problems	5	GS2	D

FSBM Track Electives - Fluids, Bio & Soft Matter					
Code	Course	EC	Q	Timeslot	
3MA100	Physics behind medical technology: equipment and physiology	5	GS4	A	
3MN100	Polymer physics	5	GS3	B	
3MN110	Landau theory & the statics and dynamics of phase transitions	5	GS4	A	
3MN150	Nanomagnetism	5	GS1234	XDXX	
3MN170	Molecular biosensing	5	GS2	E	
3MQ110	Advanced materials modelling using multiscale methods	10	GS2+3	A	
3MN210	Single molecule microscopy for nanomaterials	5	GS4	C	
3MQ100	Photonics and modern optics	5	GS2	E	
3MT100	Chaos	5	GS3	D	
3MT110	Geophysical fluid dynamics	5	GS4	B	
3MT120	Advanced computational fluid and plasma dynamics	5	GS3	E	
3MT130	Transport in porous media	5	GS4	E	
3MT140	Experimental methods in transport and soft matter physics	5	GS2	E	
3MT150	Environmental fluid mechanics	5	GS1	C	
3MT160	Introduction to NMR/MRI for imaging and flow visualization	5	GS2	C	

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PB Track Electives - Plasmas & Beams				
Code	Course	EC	Q	Timeslot
3MA020	Advanced electrodynamics	5	GS2	B
3MF100	Fusion on the back of an envelope	5	GS1	E
3MF110	Magnetic confinement and MHD of fusion plasmas	5	GS2	B
3MF120	Fusion reactors: extreme materials, intense plasma wall interaction	5	GS4	E
3MF130	Heating and diagnosing fusion plasmas	5	GS3	C
3MQ110	Adv. materials modelling using multiscale methods	10	GS2+3	A
3MP100	Gas discharges	5	GS2	E
3MP110	Solar cells	5	GS3	D
3MP120	Astrophysics	5	GS2	D
3MP140	Accelerators and beams	5	GS3	A
3MP150	Ultracold quantum physics	5	GS4	B
3MP170	Plasma processing science and technology	5	GS3	B
3MP180	Optical diagnostics: techniques and applications	5	GS4	A
3MQ010	Condensed matter at the nanoscale	5	GS2	X
3MQ100	Photonics and modern optics	5	GS2	E

NQP Track Electives - Nano, Quantum & Photonics				
Code	Course	EC	Q	Timeslot
3MN120	Organic electronics	5	GS3	B
3MN150	Nanomagnetism	5	GS1234	XDXX
3MN180	Nanophotonics	5	GS3	D
3MN190	Semiconductor nanophysics	5	GS1	E
3MQ110	Adv. materials modelling using multiscale methods	10	GS2+3	A
3MN210	Single molecule microscopy for nanomaterials	5	GS4	C
3MN220	Nanospintronics	5	GS4	E
3MP110	Solar cells	5	GS3	D
3MP150	Ultracold quantum physics	5	GS4	B
3MP170	Plasma processing science and technology	5	GS3	B
3MQ100	Photonics and modern optics	5	GS2	E