MASTER CURRICULUM – AP – 2023/2024

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, GS3	C, X
3MS010	Advanced fluid dynamics	5	**FBSM**	GS1	E
3MS020	Soft matter physics	5	**FBSM**	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
3APIDD225	Combined graduation project - Applied Physics Part	22,5	X
3APIDD30	Combined graduation project - Applied Physics Part	30	X

General Elective AP

Code	Course	EC	Q	Timeslot
3ME120	Physics of engineering problems	5	GS2	D
3MC010	Career development	2,5	GS2+4	D1,C2

FBSM Track Electives - Fluids, Bio & Soft Matter

Code	Course	EC	Q	Timeslot
3MT150	Environmental fluid mechanics	5	GS1	C
3MQ110	Advanced materials modelling using multiscale methods	10	GS2	A
4EM10	Gasdynamics	5	GS2	B2,B3
3MT160	Introduction to NMR/MRI for imaging and flow visualization	5	GS2	C
3MN150	Nanomagnetism	5	GS2+GS4	D
3MN170	Molecular biosensing	5	GS2	E
3MQ100	Photonics and modern optics	5	GS2	C
3MT140	Experimental methods in transport and soft matter physics	5	GS2	E
3MN100	Polymer physics	5	GS3	B
3MT100	Chaos	5	GS3	D
3MT120	Advanced computational fluid and plasma dynamics	5	GS3	E
3MA100	Physics behind medical technology: equipment and physiology	5	GS4	A
3MN110	Landau theory & the statics and dynamics of phase transitions	5	GS4	A
3MT110	Geophysical fluid dynamics	5	GS4	B
3MN210	Single molecule microscopy for nanomaterials	5	GS4	C
3MT170	Machine learning for fluid dynamics	5	GS1	D
3MT130	Transport in porous media	5	GS4	E

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

NQP Track Electives - Nano, Quantum & Photonics				
Code	Course	EC	Q	Timeslot
3MN190	Semiconductor nanophysics	5	GS1	E
6EMA53	Molecular photophysics	5	GS1	D
3MQ110	Adv. materials modelling using multiscale methods	10	GS2	A
3MN150	Nanomagnetism	5	GS2+GS4	D
3MQ100	Photonics and modern optics	5	GS2	C
3MN120	Organic electronics	5	GS3	B
3MP170	Plasma processing science and technology	5	GS3	B
3MN180	Nanophotonics	5	GS3	D
3MP110	Solar cells	5	GS3	D
5LHB0	Optical sensing and metrology	5	GS3	E
3MP150	Ultracold quantum physics	5	GS4	B
3MN210	Single molecule microscopy for nanomaterials	5	GS4	C
3MN220	Nanospintronics	5	GS4	E
5LFB0	Terahertz systems	5	GS4	E
3MQ120	Hybrid quantum computing	5	GS2	B