

Applied Physics Master Programme 2017/2018

Fluid Physics Track

	Code	Course	EC	
1 st quarter	193570010	Advanced Fluid Mechanics (Lohse/Gelderblom)	5.0	track course
	201300135	Soft and Biological Matter (Lemay)	5.0	track course NI, PCF
	193735060	Colloids and Interfaces (Wood, Lammertink, Duits)	5.0	chair course PCF
2 nd quarter	191551150	Numerical techniques for PDE (Geurts/Schlottbom)	5.0	track course PoF
	193580010	Turbulence (Lohse)	5.0	chair course PoF
	193572010	Physics of Bubbles (Versluis)	2.5	chair course PoF
3 rd quarter	193580020	Experimental Techniques in PoF (Gomez/Huisman))	5.0	track course PoF
	193400121	Nano-Fluidics (Siretanu/Eijkel)	5.0	track course NI, PCF
	201400194	Granular Matter (v.d. Meer/Luding)	5.0	chair course PoF
	193542070	Medical Acoustics (Versluis)	5.0	chair course PoF
4 th quarter	201400195	Fluids and Elasticity (Snoeijer)	2.5	chair course PoF
	193565000	Capillarity Phenomena (Mugele)	5.0	track course
-	201300137	Ions and Devices (Lemay)	5.0	chair course NI
	193565900	Capita Selecta PCF (Mugele)*	5.0	chair course PCF
	201100190	Capita Selecta NI (Lemay)*	5.0	chair course NI

Materials Physics Track

	Code	Course	EC	
1 st quarter	193510040	Theoretical Solid State Physics (Kelly)	5.0	track course
	193530000	Intr. to Superconductivity (Dhalle/Hilgenkamp/ Golubov/Brinkman)	5.0	chair course ICE/QTM/EMS
	193570010	Advanced Fluid Mechanics (Lohse/Gelderblom)	5.0	track course EMS
2 nd quarter	193550020	Surfaces and Thin Layers (Wormeester/Zandvliet/Sturm)	5.0	track course
	201100214	Applications of Superconductivity (Dhalle/ten Kate)	5.0	chair course EMS
	193510020	Electronic Structure Theory I (Kelly)	5.0	chair course CMS
	201500167	Modern Topics in Condensed Matter Physics (MTCMP) (van Houselt/Kooij/Wormeester/Zandvliet)	5.0	chair course PIN
3 rd quarter	193530010	Nanophysics (Zandvliet/Brocks/Golubov)	5.0	track course
	193530020	Advanced Materials (Kooij/Brocks)	5.0	track course
	193510030	Electronic Structure Theory II (Brocks)	5.0	chair course CMS
4 th quarter	201100146	Cryogenic Science and Technology (ter Brake)	5.0	chair course EMS

Optics and Biophysics Track

	Code	Course	EC	
1 st quarter	201300139	Laser physics (Boller/Bastiaens)	5.0	track course
	193515000	Quantum Optics (Pinkse)	5.0	track course
	193400131	Nano-Optics (Garcia-Blanco)	5.0	chair course OS
	193640020	Biophysical Techniques and Mol. Imaging (Otto/Blum)	5.0	chair course NBP
	193510040	Theoretical Solid State Physics (Kelly)	5.0	chair course CCP
	191411291	Applied Quantum Mechanics (Kelly/Verschuur)	5.0	chair course CCP
	201300135	Soft and Biological Matter (Lemay)	5.0	chair course NBP/CCP
2 nd quarter	193640080	Biophysics (Claessens)	5.0	chair course NBP
	201100074	Nanophotonics (Vos/Pinkse/Legendijk)	5.0	chair course COPS
	193520030	Nonlinear Optics (Boller/van der Slot)	5.0	chair course LPNO
	201400281	Adv. Medical Imaging & Therapy Systems (Manohar)	5.0	chair course BMPI
	193570050	Advanced Quantum Mechanics (Brocks)	5.0	chair course CCP
3 rd quarter	201300141	Wave Optics (vd Slot)	5.0	track course
	201400196	Quantum Emitters (Vos/Blum/Ctistis)	5.0	track course
	191210880	Integrated Optics (Garcia Blanco)	5.0	chair course OS
	193400111	Bionanotechnology (Bennink)	5.0	chair course NBP
	201700176	Computational Physics 1	2.5	chair course CCP
	201700177	Computational Physics 2	2.5	chair course CCP
4 th quarter	193500000	Biomedical Optics (Vellekoop)	5.0	chair course BMPI
-	193520040	Exp. Laser Physics and Nonlinear Optics (Bastiaens/Offerhaus)*	5.0	chair course OS/LPNO
	201100075	Nanophotonic Experiments (Vos/Pinkse)*	5.0	chair course COPS

* Students who want to participate in this course, please contact the teaching staff.

Programme Elective courses Applied Physics 2017/2018

The curriculum of Applied Physics contains 20 EC elective courses. The elective courses can be compulsory track courses or chair specific courses of another research group or track, listed in the Applied Physics Master Programme. The elective courses can be courses of other departments (see website of this department) or extra courses given by Applied Physics listed below. The curriculum of Applied Physics contains for every research group a list of recommended elective courses. The recommended courses of other departments are also listed below. For these students who want to extend the Internship to 30 EC, the 10 EC elective courses free can be used.

Capita Selecta courses are for activities done in the chair not belonging to regular courses. The content, form and size is in agreement with the chair. There is a special [registration form](#) where beside course code, name, and EC, the subject, the material used, the assessment and a title is registered. The title is visible on the certificate supplement.

	Code	Course	EC
1 st quarter	191411291	Applied Quantum Mechanics (Kelly/Verschuur)	5.0
	193700010	AMM - Characterization (Huijser)	5.0
	193640060	Radiation Expertise (v. Dijk)*	5.0
	201600019	Energy Conversion Technology (Pozarlik, Brem)	5.0
	201600180	Molecular Structure and Spectroscopy (Huijser)**	2.5
	201700187	Soft and Biological Techniques***	5.0
2 nd quarter	193530040	Introduction to High Energy Physics (v. Eijk)	5.0
	193400141	Nano-Electronics (v.d. Wiel)	5.0
	201700026	Electrical Power Engineering and System Integration (Dhalle)	5.0
	193570050	Advanced Quantum Mechanics (Brocks)	5.0
3 rd quarter	201400037	Linear Solid Mechanics (Ellenbroek)	5.0
	201700034	Introduction to PDE	5.0
		Nonlinear Dynamics (Meijer)	5.0
	201700025	Solar Energy	5.0
		Energy Storage	5.0
4 th quarter	193570040	Theory of General Relativity (Briels)	5.0
	201500405	Theory of Complex Functions	3.0
	201700024	Wind Energy	5.0
	200900066	Intr. to the Physics of Correlated Electrons (Golubov)	5.0
	193720040	Introduction to Computational Fluid Dynamics (Lammertink)	5.0
-	191211000	Advanced semiconductor devices (Salm)*	5.0

* Language of instruction: Dutch; Students who want to participate in this course, please contact the teaching staff.

** Part of Module 09 AT Science (201700072)

*** Soft and Biological Techniques can only be done in combination with Soft and Biological Matter. It is open for master students when the maximum of student places for the minor participants is not reached. Please contact Michel Duits.