

General information

Brightspace

Brightspace is TU Delft's digital learning environment. Students, instructors and staff use Brightspace for almost all communication for their courses. There is a Brightspace page for every course, but also for the Master Applied Physics programme.

⊕ brightspace.tudelft.nl

Digital study guide

For programme details, courses and course details.

□ ap.msc.studyguide.tudelft.nl

Timetables

Timetables for courses and for the programme.

Register for exams

Written examinations require registration! You have to register using Osiris. It is required to register for written exams no later than 15 days before the exam.

examdesk.tudelft.nl

Regulations

The regulations inform you about your rights and obligations.

Faculty student portal

Information relating to student matters at TU Delft, such as timetables, internship, master thesis project, contact information and study facilities.

⊕ tnw.students.tudelft.nl

E-service

For questions regarding (reactivation of) NetID.

⊕ e-service.tudelft.nl

Student association

Association for Students of Applied Physics

⊕ asap.tudelft.nl

TU Delft Library

TU Delft has an extended library where you can borrow books. The website gives access to many search portals, electronic journals etc.

Programme team

Faculty of Applied Sciences, Lorentzweg 1

Programme director

Aurèle Adam has final responsibility for the Applied Physics master of science programme.

+31 (0)15 27 82455

Physics Building (22), room E006

Programme coordinator

Arno Haket supervises the daily routine of the programme. Consult him for all programme related questions and problems.

A.J.W.Haket@tudelft.nl

+31 (0)15 27 85582

Physics Building (22), room A206

Academic counsellor

Nynke Penninga will advise you on all kinds of studyrelated matters and personal problems, such as planning, time management, illness and psychological problems. All private matters discussed are confidential.

academiccounsellor-ap@tudelft.nl

+31(0)15 27 85516

Physics Building (22), room A204

Education & Student Affairs

Jaffalaan 9a (entrance Mekelweg) 2628 BX Delft

+31(0)15 27 88012

www.tudelft.nl/en/student/administration

Administration of results, account group Applied Science SPA-TNW@tudelft.nl +31(0)15 27 89826

Board of Examiners

The Board of Examiners is responsible for the assessment quality and the degree audits. To apply for acceptance of changes to the regular programme, a request should be submitted to the Board of Examiners. It is strongly advised to consult the programme coordinator in advance. Requests should be sent to the secretary of the board: Mw. Kirsten van den Berg.

BoardOfExaminers-AP-AS@tudelft.nl +31 (0)15 27 88180

Physics Building (22), room A255

Board of Studies

The Board of Studies is an advisory body representing students and teachers, and has three main responsibilities:

- To advise on the Teaching and Examination Regulations and the Implementation Regulations
- To annually evaluate the programme
- · To advise on all matters concerning education



Core programme and orientations

The Applied Physics programme is a two-year master programme and comprises 120 EC.

The programme has a core-orientation structure.

Within this structure, there is a choice of research tracks:

- Physics for Energy
- Physics for Fluids Engineering
- Physics for Health and Life
- Physics for Instrumentation
- Physics for Quantum Devices and Quantum Computing.

The core programme comprises 90 EC and has the same structure for all tracks and students:

- 12 EC of compulsory modules: Mathematical Methods for Physics (9EC) and Ethics and Engineering (3EC).
- · 12 EC of G-list modules: choose two (out of four) general advanced physics courses. These modules aim at depth as well as breadth in general physics knowledge.
- 12 EC of T-list electives: technical and science subjects related to the tracks. T-list modules are more specialised than G-list modules. They are representative for the research areas of the physics departments.
- · 6 EC chosen from subjects on the G-list, T-list or the list of General, not track-related, electives,
- 48 EC Master's Thesis Project: always done in a Research section of one of the physics departments or affiliated groups. The prior approval of the Board of Examiners should be obtained if at least three months of the thesis work is performed on a location outside the mentioned departments or affiliated groups.

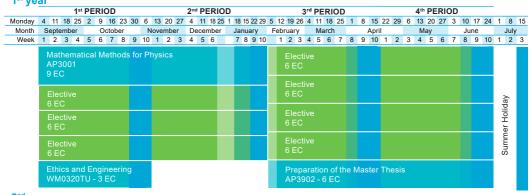


Combining the core programme with a 30 EC orientation completes the master programme. Choose from:

- Research and Development (R&D) an Industrial Internship (AP3911), or a group design project (AP3841) and/or 12 EC of additional electives, chosen from subjects on the G-list, T-list, the list of General electives, or (with a maximum of 6 EC) societal modules from the S-list.
- Casimir (Cas) a special pre-PhD programme in collaboration with Leiden University, linked to the Physics for Quantum Devices and Quantum Computing track or research in bio-nanoscience department.
- · Education (Ed1/Ed2) get a Dutch secondary school
- Management of Technology (MoT) consists of (either the first or) the second semester of the MSc MoT programme
- Study-abroad (SA) a semester, 30 EC of modules, at a foreign university; optionally including a research project.

For additional information see the study guide: https://ap.msc.studyquide.tudelft.nl

Master programme - Orientation Research and Development 1st vear



2nd vear

	1st PERIOD						2 nd PERIOD 3 rd PERIOD								4th PERIOD																															
Monday	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18 2	25 1	18	15 2	22 29	9 5	12	19	26	4 1	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	7 24	1	1	3 1	15	>
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	Master Thesis Project AP3902 42 EC									t															ı	nte		ΑP			us	try					Summer									

Remarks.

- Ethics and Engineering can also be done in the third period
- The second year is flexible. Internship in Industry can also be done before the Master Thesis Project
- See Brightspace organization 'master Applied Physics' for the schemes of other variants of the programme

Legend Exam preparation Holiday EC: European Credit

Obligatory core r Module Code	Module Title	EC	1 2 3 4
AP3001	Mathematical Methods for Physics	9	• • o c
AP3902	Master Thesis	6+42	-
WM0320TU	Ethics and Engineering	3	1 or 3
G-list modules			Period
Module Code	Module Title	EC	1 2 3 4
AP3021	Advanced Statistical Mechanics	6	• • 0 0
AP3032	Continuum Physics	6	• • 0 0
AP3051	Advanced Quantum Mechanics	6	0 0 •
AP3071	Advanced Electrodynamics	6	• • 0 0
Recommended	T-list modules Physics for Energy track		Period
Module Code	Module Title	EC	1 2 3 4
AP3082	Computational Physics	6	0 0 •
AP3141	Environmental Physics	6	0 0 •
AP3211	Advanced Solid State Physics	6	0 0 •
AP3311	Neutrons, X-Rays and Positrons for Studying Structures & Dyn.	6	0 0 •
AP3333	Physics of Energy Materials	6	\bullet \bullet \circ \circ
AP3341	Nuclear Reactor Physics	6	0 0 •
AP3352	Introduction to Nuclear Science and Engineering	6	
CH3783	Materials Chemistry for the Nuclear Fuel Cycle	3	0 0 • (
EE4670	PV Materials Processing and Characterization	4	2nd yea
EE4680	Photovoltaic Modelling	4	2nd yea
ET4377	Photovoltaic Technologies	4	0 0 • (
ET4378	Photovoltaic Systems	4	000
ET4379	Photovoltaic Lab Course	4	2nd yea
ME45203	Electrolyzers, Fuel Cells, and Batteries	4	000
SET3110	Energy Storage in Batteries	4	0 0 • (
Recommended	T-list modules Physics for Fluids Engineering track		Perio
Module Code	Module Title	EC	1 2 3
AP3082	Computational Physics	6	0 0 •
AP3141	Environmental Physics	6	0 0 •
AP3171	Advanced Physical Transport Phenomena	6	0 0 • 0
AP3181	Applied Multiphase Flow	6	0 0 •
AP3551	Computational Multiphase Flow	6	0 0 •
AP3563	Water in the Atmosphere	5	0 0 • (
AE4180	Flow Measurement Techniques	3	0 0 •
AE4W02TU	Introduction to Wind Turbines: Physics and Technology	4	0 • 0 (
CH3051	Applied Transport Phenomena	4	0 • 0 (
CH3153	Molecular Transport Phenomena	4	• 0 0 (
CH3412	Biological Transport Phenomena	4	0 0 • (
CH3421	Computational Transport Phenomena	6	0 0 • (
ME45001	Advanced Heat Transfer	4	• 0 0 (
ME45030	Turbulence	5	0 0 •
ME45042	Advanced Fluid Dynamics	5	\bullet \bullet \circ
ME45190	Chaos in Dynamical Systems	3	0 • 0
WI4011	Computational Fluid Dynamics	6	0 0 •
Recommended	T-list modules Physics for Health and Life track		Perio
Module Code	Module Title	EC	1 2 3
AP3061	Acoustic, Elastic and Electromagnetic Waves	6	• • 0 (
AP3082	Computational Physics	6	0 0 •
AP3122	Advanced Optical Imaging	6	• • 0 (
AP3132	Advanced Digital Image Processing	6	0 0 •
AP3162	Physics of Biological Systems	6	0 0 •
AP3232	Medical Imaging Signals and Systems	6	• • 0
AP3352	Introduction to Nuclear Science and Engineering	6	• • 0
AP3371	Radiological Health Physics	6	Differer
AP3511/NB4070	Biophysics / Soft Matter Physics	6	• • 0
AP3531	Acoustical Imaging	6	0 0 0
AP3582	Medical Physics of Photon and Proton Therapy	6	0 0 •
	Biological Transport Phenomena	4	
CH3412	Biological Transport Phenomena Nuclear Medicine	4	0 0 0 0
	Nuclear Medicine Nuclear Chemistry		

Module Code	Module Title	EC	1	2	3	
AP3061	Acoustic, Elastic and Electromagnetic Waves	6	•	•	0	-
\P3082	Computational Physics	6	0	0	•	-
\P3091	Elementary Particles	6	0	0	•	
AP3113	Quantum Optics	6	0	0	•	
NP3122	Advanced Optical Imaging	6	•	•	0	
NP3132	Advanced Digital Image Processing	6	0	0	•	
P3152	Optics for Lithography	6	0	0	•	
P3222	Nanotechnology	6	0	0	•	П
AP3242	Lasers and Photodetectors	3	0	•	0	
AP3252	Electron Microscopy Characterization of the Nanoscale	3	0	0	0	
AP3311	Neutrons, X-Rays and Positrons for Studying Structures & Dynamics	6	0	0	•	Ī
NP3352	Introduction to Nuclear Science and Engineering	6	•	•	0	
P3382	Advanced Photonics	6	0	0	•	Ī
P3391	Geometrical Optics	6	0	0	0	Ī
NP3401	Introduction to Charged Particle Optics	6	0	0	•	Π
P3531	Acoustical Imaging	6	0	0	•	
AP3412	Experimental Techniques in Optics	3	0	0	0	Ī
P3701	Submm and Terahertz Physics and Applications	3	0	0	•	Ī
E4880	Optical Space Sensors	4	0	0	•	Ī
E4745	Terahertz Superconducting Astronomical Instrumentation	5	Ō	0	Ō	Ī
/IE46310	Opto-Mechatronics	4	•	•	Ö	Ī
SC42030	Control for High Resolution Imaging	3	0	0	0	
SC42065	Adaptive Optics Design Project	3	Ō	Ō	Ō	ī
Module Code	T-list modules Physics for Quantum Devices and Quantum Compu Module Title	EC EC	1	2	Per 3	1
\P3082	Computational Physics	6	0	0		Ī
\P3101	The Interpretation of Quantum Mechanics	3	0	0	0	
AP3113	Quantum Optics	6	0	0	•	Ī
NP3211	Advanced Solid State Physics	6	0	0		Ī
\P3222	Nanotechnology	6	0	0	•	Ī
AP3252	Electron Microscopy Characterization of the Nanoscale	3	0	0	0	
NP3261	Mesoscopic Physics	6	•	•	0	Ī
NP3281	Quantum Transport	6	0	0		Ī
AP3303	Applications of Quantum Mechanics	3	•	0	0	Ī
\P3421-PR	Quantum Information Project	2	0	0	•	Ī
NP3432	Quantum Hardware 1 - Theoretical Concepts	4	0	0	•	Ī
NP3442	Quantum Hardware 2 - Experimental State of the Art	4	0	0	0	Ī
	Quantum Error Correction	4	0	0	0	Ī
AP3452	Fairy Tales of Theoretical Physics	6	0	0	•	Ī
			_	0	•	Ī
AP3681	Quantum Communication and Cryptography	5	0	\circ		_
AP3452 AP3681 CS4090 QIST4300		5 4	0	•	0	
AP3681 CS4090	Quantum Communication and Cryptography				0	_

AP3652	Electronics for Physicists
AP3751	Artificial Intelligence for Physicists
AP3831	Systems Engineering
4403TGR64	Theory of General Relativity (Leiden)
CS4195	Modeling and Data Analysis in Complex Networks
CS4220	Machine Learning
IFEEMCS4205	Statistical Learning for Engineers
IN4049TU	Introduction to High Performance Computing
LM3692	iGEM
WI4201	Scientific Computing
WI4260TU	Scientific Programming for Engineers

AS3111	Athens
AS3121	Scientific Writing and Argumentation
TPM305A	Writing a Master's Thesis in English
TPM405A	Patent Law and Patent Policy
TPM412A	Idea to Startup Health & Life
TPM413A	Idea to Startup Energy & Sustainability
TPM414A	Idea to Startup Deep Tech
TPM001B	Sociotechnology of Future Energy Systems
TPM301B	Spoken English for Academic Purposes
WM0203TU-Eng	Oral Presentations
WM1115TU	Dutch Elementary

 $A \ more \ detailed \ description \ of \ the \ core \ programme, \ orientations \ and \ courses \ can \ be \ found \ in \ the \ studyguide: ap.msc.studyguide.tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide.tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide.tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide.tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide.tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide \ tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide \ tudelft.nl \ and \ courses \ can be \ found \ in \ the \ studyguide: ap.msc.studyguide: ap.msc.studyguide:$

