GHENT UNIVERSITY

Study Programme

Academic year 2024-2025

Faculty of Sciences

Exchange Programme in Physics and Astronomy (Master's Level)

Language of instruction: English

Programme version 8

1 General Courses

The exchange programme contains a preferred list of English courses taught at UGent of the Master of Science in Physics and Astronomy.
Tips for completing your Learning Agreement:

- Please check the departmental rules for incoming students.
- A minimum number of 20 ECTS per semester (or 40 ECTS per year) should be chosen.
- Students who want to perform a research project have to contact a promotor and have his/her preliminary agreement before submitting an application and learning agreement.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004503	Solid State and Nano Physics *Christophe Detavernier -- Department of Solid State Sciences*	6			A:1	180
2	C004504	Computational Physics *Toon Verstraelen -- Department of Physics and Astronomy*	6			A:1	180
3	C004502	Subatomic Physics *Ben Page -- Department of Physics and Astronomy*	6			A:1	180
4	C004505	Theoretical and Numerical Astrophysics *Maarten Baes -- Department of Physics and Astronomy*	6			A:1	180
5	C004506	Quantum Field Theory *Thomas Mertens -- Department of Physics and Astronomy*	6			A:1	180
6	C004451	General Relativity *Archisman Ghosh -- Department of Physics and Astronomy*	6			A:1	180
7	C002349	Astroparticle Physics *Archisman Ghosh -- Department of Physics and Astronomy*	6			A:2	180
8	C003131	Observational Techniques in Astronomy *Arjen van der Wel -- Department of Physics and Astronomy*	6			A:2	180
9	C004507	Nuclei: Structure, Synthesis and Interactions *Natalie Jachowicz -- Department of Physics and Astronomy*	6			A:2	180
10	C003939	Radiative Transfer Simulations in Astrophysics *Maarten Baes -- Department of Physics and Astronomy*	6			(A:2)[d]	180
11	C003120	Physics and Chemistry of Nanostructures *Zeger Hens -- Department of Chemistry*	6			A:2	180
12	C003122	Nuclear Methods in Material Research *Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering*	6			A:2	180
13	C004508	Structure Analysis of Solids *Jolien Dendooven -- Department of Solid State Sciences*	6			A:2	180
14	C003128	Optical Spectroscopy of Materials *Dirk Poelman -- Department of Solid State Sciences*	4			A:1	120
15	C003208	Luminescence *Jonas Joos -- Department of Solid State Sciences*	6			(A:1)[d]	180
16	C004509	Nanomagnetism *Bartel Van Waeyenberge -- Department of Solid State Sciences*	5			A:2	150
17	C004523	Materials for Energy Applications *Christophe Detavernier -- Department of Solid State Sciences*	6			(A:1)[c]	180
18	C004511	Thin Films: Physics and Analysis *Jolien Dendooven -- Department of Solid State Sciences*	6			A:1	180

19	C004512	Thin Films: Atomic Scale Processing and Analysis *Jolien Dendooven -- Department of Solid State Sciences*	3	A:1	90
20	C004513	The Theory of Metals: from Path Integrals to Experiment *Nick Bultinck -- Department of Physics and Astronomy*	6	A:1	180
21	C004450	Medical Radiation Physics and Dosimetry *Klaus Bacher -- Department of Human Structure and Repair*	6	A:2	180
22	C003129	Capita Selecta Particle Physics *Joscha Knolle -- Department of Physics and Astronomy*	6	A:2	180
23	C004514	Quantum Electrodynamics *Dimitri Van Neck -- Department of Physics and Astronomy*	6	(A:2)[d]	180
24	C004515	Many-body Physics *Dimitri Van Neck -- Department of Physics and Astronomy*	6	A:2	180
25	C003668	Quantum Computing *Frank Verstraete -- Department of Physics and Astronomy*	6	A:2	180
26	C004516	Holography *Michal Heller -- Department of Physics and Astronomy*	6	(A:2)[d]	180
27	C004561	Quantum Black Holes *Thomas Mertens -- Department of Physics and Astronomy*	6	A:2[a]	180
28	C004071	Strongly Correlated Quantum Systems *Jutho Haegeman -- Department of Physics and Astronomy*	6		180
29	C004421	Relativistic Hydrodynamics - from Quantum Field Theory to Black Holes *Michal Heller -- Department of Physics and Astronomy*	6	A:1[a]	180
30	C004518	Field Theory for Statistical Mechanics *Nick Bultinck -- Department of Physics and Astronomy*	6	(A:2)[d]	180
31	C004106	Complexity and Criticality *Jan Ryckebusch -- Department of Physics and Astronomy*	6	A:2	180
32	C003758	Machine Learning *Yvan Saeys -- Department of Mathematics, Computer Science and Statistics*	6	A:1	180
33	C004517	Dynamics: from Newton to Schrödinger *Sven De Rijcke -- Department of Physics and Astronomy*	6	A:1	180
34	C003242	Research Project	0	A:1, C:J, B:2	0

Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the cours name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/Serbian	zh: Chinese
cs: Czech	el: Greek	fr: French	nl: Dutch	pt: Portuguese	sl: Slovene	
da: Danish	en: English	it: Italian	no: Norwegian	ru: Russian	sv: Swedish	

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2.
When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.
When a semester is shown in brackets, the course in not offered this year in the specific offering.
The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually	c: annually, from 2025-2026	f: annually, from 2026-2027	i: annually, from 2027-2028
b: tri-annually	d: bi-annually, from 2025-2026	g: bi-annually, from 2026-2027	j: bi-annually, from 2027-2028
	e: tri-annually, from 2025-2026	h: tri-annually, from 2026-2027	k: tri-annually, from 2027-2028