

Introduction to the Master's Program in Physics

October 7th, 2019

- **Welcome from Fachgruppe (Department) and Fachschaft (Student's representation)**
- **Presentation of the different tracks (focus of study)**
 - **Experimental Particle Physics (T. Hebbeker)**
 - **Astroparticle Physics (C. Wiebusch)**
 - **Quantum Field Theory and Gauge Theories (M. Czakon)**
 - **Experimental Condensed Matter Physics (H. Bluhm)**
 - **Nanoelectronics (H. Bluhm)**
 - **Quantum Technology (H. Bluhm)**
 - **Condensed Matter Theory (R. Mazzarello)**
- **Organisational informations about the course of study**
- **Final words by Fachschaft**

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How do I get a Master's Degree?

Five requirements:

1. Successful passing of all compulsory modules of one focus of studies
 - Compulsory modules are listed in the curriculum
 - See next slide
2. At minimum 60 Credits from modules assigned to the first year of studies
Freely selectable from
 - Specialisation courses of the chosen focus of studies
 - Compulsory or specialisation courses of the other focuses of study
 - Subsidiary Modules
3. Passing of Master's Seminar und Master's Practical
 - Introduction into Master's thesis at one of the institutes
 - Master's Seminar: Acquire in-depth scientific knowledge in the chosen thesis subject
 - Master's Practical: Get acquainted with the scientific methods of the chosen field
4. Master's Thesis
5. Master's Defence Colloquium

Information on courses in RWTHOnline

Focus of Studies

- [2013] Physik
- Focus of Studies
+ Experimental Particle Physics
+ Astroparticle Physics and Cosmology
+ Quantum Field Theory and Gauge Theories
+ Experimental Condensed Matter Physics
+ Nanoelectronics
+ Quantum Technology
+ Condensed Matter Theory

Elective Courses

- Elective Courses	- Subsidiary Subjects
- Focus of Studies	+ Astronomy and Astrophysics
+ Experimental Particle Physics	+ Betriebswirtschaft (Economics)
+ Astroparticle Physics and Cosmology	+ Biomedizinische Technik (Biomedical Engineering)
+ Quantum Field Theory and Gauge Theories	+ Biophysik (Biophysics)
+ Experimental Condensed Matter Physics	+ Chemie (Chemistry)
+ Nanoelectronics	+ Energietechnik (Energy Technology)
+ Condensed Matter Theory	+ Geophysik (Geophysics)
- Specialisation Courses	+ Informatik (Computer Science)
+ Experimental Particle Physics	+ Kristallographie (Crystallography)
+ Astroparticle Physics and Cosmology	+ Lasertechnik (Laser Technology)
+ Quantum Field Theory and Gauge Theories	+ Luft- und Raumfahrttechnik (Aerospace Technology)
+ Experimental Condensed Matter Physics	+ Mathematik (Mathematics)
+ Condensed Matter Theory	+ Patentwesen (Patent System)
+ Nanoelectronics	+ Philosophie (Philosophy)
- Subsidiary Subjects	+ Science and International Security
	+ Technische Akustik (Technical Acoustics)
	+ Verfahrenstechnik (Process Technology)
	+ Werkstoffe der Elektrotechnik (Electronic Materials)
	+ Werkstoffphysik (Material Physics)

Which Courses should I choose?

Masterprüfungsordnung (Examination Regulation of the Master's program) offers a lot of flexibility.

How do I use this flexibility reasonably?

1. Decide for a focus of study
2. Attend the compulsory courses of the chosen focus of study
3. Choose from the offered specialisation courses
4. Complement by subsidiary subjects

What should you avoid?

- Don't dissipate on very diverse courses, but set your focus according to your interests!
- Choose your subsidiary courses only from one (at most two) subsidiary subjects!

You can decide in large part on the curriculum of your Master's program

Due to your choice of courses you are self-responsible for a reasonably and meaningful Master's Certificate!