

Recommendations for a Master-Curriculum with focus on “Experimental Particle Physics”

Start in Winter Term (optimal):

Semester 1 (Winter Term)

P23.1 Einführung in die Elementarteilchenphysik/Introduction to Elementary Particle Physics (8 credit points)

P21 Statistische Physik/Statistical Physics (8 credit points)
(Alternatively, in Semester 2)

P22.g/P25.1.c Stat. Methoden der Datenanalyse/Statistical methods in data analysis (6 credit points)

Additional possible course:

P24.1.i Physik und Technik moderner Beschleuniger/
Physics and technology of modern accelerators (6 credit points)

Semester 2 (Summer Term)

P24.1.e Experimentelle Elementarteilchenphysik 1/Experimental particle physics 1 (6 credit points)

P24.1.f Experimentelle Elementarteilchenphysik 2/Experimental particle physics 2 (6 credit points)

P24.1.h Detektoren/Detectors (6 credit points)

P27 Einführung in das wissenschaftliche Arbeiten/
Introduction into advanced scientific practice (7 credit points)

Possible additional modules, depending on course offers:

P24.1.g Experimentelle Astroteilchenphysik/Experimental Astroparticle Physics (6 credit points)

P25.1.d Spezialmodul Experimentelle Teilchen-/Astroteilchenphysik 2 (6 credit points)

Semester 3 (Winter Term)

P23.x Schwerpunktmodul II (Recommendation: Laserphysik/Physics of Lasers) (8 credit points)

P27 Einführung in das wissenschaftliche Arbeiten/
Introduction into advanced scientific practice (7 credit points)

Afterwards

P28 Forschungsbeleg/Introduction into independent scientific research (18 credit points)

Semester 4 (Summer Term)

Masterarbeit (30 credit points)

In addition, “Überfachlicher Wahlpflichtbereich” (P30):

2*5 or 10 credit points depending on course offers distributed over all terms.

Recommendation: Modules in Mathematics or Informatics.

Students also interested particularly in theoretical physics may attend modules on Quantum Field Theory or QCD instead of P24.1.g/P25.1.d/P24.1.i.

Start in Summer Term (less optimal):

Semester 1 (Summer Term)

P21 Statistische Physik/Statistical Physics (8 credit points)
P24.1.e Experimentelle Elementarteilchenphysik 1/Experimental particle physics 1 (6 credit points)
P24.1.f Experimentelle Elementarteilchenphysik 2/Experimental particle physics 2 (6 credit points)
P24.1.h Detektoren/Detectors (6 credit points)

Possible additional modules, depending on course offers:

P24.1.g Experimentelle Astroteilchenphysik/Experimental Astroparticle Physics (6 credit points)
P25.1.d Spezialmodul Experimentelle Teilchen-/Astroteilchenphysik 2 (6 credit points)

Semester 2 (Winter Term)

P23.1 Einführung in die Elementarteilchenphysik/Introduction to Elementary Particle Physics (8 credit points)
P23.x Schwerpunktmodul II (8 credit points)
(Recommandation: Laserphysik/Physics of Lasers)
P22.g/P25.1.c Stat. Methoden der Datenanalyse/Statistical methods in data analysis (6 credit points)

Additional possible course:

P24.1.i Physik und Technik moderner Beschleuniger/
Physics and technology of modern accelerators (6 credit points)

Semester 3 (Summer Term)

P27 Einführung in das wissenschaftliche Arbeiten/
Introduction into advanced scientific practice (14 credit points)
Afterwards
P28 Forschungsbeleg/Introduction into independent scientific research (18 credit points)

Semester 4 (Summer Term)

Masterarbeit/master thesis (30 credit points)

In addition, "Überfachlicher Wahlpflichtbereich" (P30):

2*5 or 10 credit points depending on course offers distributed over all terms.

Recommandation: Modules in Mathematics or Informatics.

Students also interested particularly in theoretical physics may attend modules on Quantum Field Theory or QCD instead of P24.1.g/P25.1.d/P24.1.i.