Quantum Field Theory II

Lecturer
Riccardo ARGURIO (Coordinator)

Course mnemonic
PHYS-F440

ECTS credits
5 credits

Language(s) of instruction
English

Course period
Second term

Campus
Plaine

Course content

Path integrals in quantum mechanics and for scalar, fermionic and vector fields. Radiative corrections: loops and divergencies. Renormalization. Energy scales and evolution of couplings. Quantum electrodynamics. Non-abelian gauge theories. Quantum chromodynamics and asymptotic freedom.

Objectives (and/or specific learning outcomes)

Provide a working knowledge of perturbative quantum field theory, including radiative corrections and their physical consequences.

Teaching method and learning activities

Blackboard course. Exercise sessions.

References, bibliography and recommended reading

Notes (including references to textbooks) available at https://ptm.ulb.be/riccardo-argurio/

Other information

Place(s) of teaching

Plaine

Contact(s)

riccardo.argurio@ulb.be
https://ptm.ulb.be/riccardo-argurio/

Evaluation method(s)

Other

Evaluation method(s) (additional information)

Oral examination.

Determination of the mark (including the weighting of partial marks)

100% oral examination

Main language(s) of evaluation

English and French

Programmes

Programmes proposing this course at the faculty of Sciences

MA-PHYS | Master in Physics | finalité Research/unit 1 and finalité Teaching/unit 1