Module: Elective Advanced Lectures: Theoretical Physics

Module No.: physics70c

Course: Random Walks and Diffusion (T)

Course No.: physics7502

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	1+1	3	ST

Requirements for Participation:

Preparation:
Quantum mechanics and Thermodynamics

Form of Testing and Examination:
Requirements for the (written or oral) examination: Successful work within the exercises

Length of Course:
1 semester

Aims of the Course:
The aim of the course is to introduce the student to random processes and their application to diffusion phenomena

Contents of the Course:
Basics of probability theory, Master equation and Langevin equation, Law of large numbers and Central Limit Theorem, First passage problems, Large scale dynamics, Dynamical scaling.

Recommended Literature:
Will be announced in the first lecture